

## Case Report

# Extreme Idiopathic gigantomastia

Mehdi Benna<sup>1\*</sup>, Radhi Ben Naser<sup>1</sup>, Yasmine Fertani<sup>1</sup>, Mohammed Ali Ayadi<sup>1</sup>, Ilhem Bettaieb<sup>2</sup>,  
Riadh Chargui<sup>1</sup>, Monia Hechiche<sup>1</sup>, Amor Gammoudi<sup>2</sup>, Khaled Rahal<sup>1</sup>

<sup>1</sup>Department of Surgical Oncology, <sup>2</sup>Department of Pathology, Salah Azaiez Institute, Tunis, Tunisia

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### \*Correspondence:

Dr. Mehdi Benna,

E-mail: Mehdi\_benna@hotmail.com

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### ABSTRACT

Gigantomastia is a rare mastopathy of unknown cause. Due to mechanical and psychological complications related to excessive breast weights and volume, effective surgical treatment is required. Most cases of gigantomastia in the literature are associated with pregnancy or puberty and very rare cases of spontaneous gigantomastia have been reported. We report a 38 years old woman with an idiopathic gigantomastia treated successfully with Thorek technique.

**Keywords:** Gigantomastia, Mammoplasty, Surgery, Treatment

## INTRODUCTION

Gigantomastia is defined by the benign bilateral enlargement of the breast to a degree that requires a breast surgery reduction removing more than 1500 mg per breast.<sup>1</sup> Gigantomastia's aetiologies were subdivided in four categories: Idiopathic, pregnancy associated, juvenile and drug induced.

Whereas, previous reports showed that pregnancy induced, and juvenile forms are the more common.<sup>2</sup> To our knowledge, idiopathic gigantomastia have been reported in only 11 cases.<sup>3,4</sup> Authors report a rare case of idiopathic gigantomastia successfully treated with breast surgery reduction.

## CASE REPORT

A thirty-eight years old Congolese woman attended our Institute for progressive enlargement of the breasts evolving since 7 years. She had restriction of her movement due to a severe backache. She needed help mobilising and bathing.

She was pre-menopausal and had four children. Her youngest child was 9 year-old. She had breast feed all of her children about one year. Her menarche was 14 years and had regular menstruations since then. She was not taking any medication including contraceptive pills.

Her body mass index was 29,25Kg/m<sup>2</sup>. On physical examination, she had enormously hypertrophic breasts reaching below the waistline (Figure 1 and Figure 2). The right breast was obviously larger than the right breast. She had multiples scars and bleeding ulcerations located in the lower quadrants due to the chronic frictions with her bra. Palpations didn't find any mass.

Breast sonography finds galactophoric dilatation with several simples cysts. We were unable to perform mammography or magnetic resonance imagery due to the large size and density of the breasts. Laboratory essays for hormone levels including prolactin, progesterone, oestrogen,  $\beta$ -human chronic gonadotrophin, thyroid stimulating hormone and growth hormone were normal. On blood sampling, her hemoglobin level was 8,2 g/dL probably explained by the ulceration bleedings in the breasts.



**Figure 1: Gigantomastia in a 38 years old woman before mammoplasty- frontal view.**



**Figure 1: Gigantomastia in a 38 years old woman before mammoplasty- lateral view.**

She had blood transfusion and then was operated under general anaesthesia. She had a bilateral reduction mammoplasty with free nipple grafts (Figure 3). The specimen weighed 21,7Kg in total. Post operative course

was eventful. The patient was discharged at the third day.



**Figure 3: One month post operative results.**

The histological examination showed nodular proliferation of glandular breast tissue with oedematous fibrous stroma and focal lactational change.

After 6 months of the surgery there was no relapse in the hypertrophy of the breasts with a satisfactory esthetic result.

## DISCUSSION

Idiopathic gigantomastia is extremely rare condition. Although the actual pathophysiology is not known, there are several theories that could explain the abnormal enlargement of the breast. Since most of the cases of gigantomastia are diagnosed within pregnancy or puberty, excessive release of endocrinology hormones or increased hormonal sensitivity are suspected to be the cause.<sup>2</sup>

Juvenile gigantomastia can occur during per pubertal period and sometimes occurring with the onset of the larch. Levels of estrogen and progesterone are usually normal in this setting.<sup>5</sup> Similar to fibroadenomas, this growth of normal breast tissue is explained by excess sensitivity to normal levels of hormones. Noczynska et al, report the cases of two 14- and 15-year-old girls with high levels of estrogen receptors in the mammary tissue. Immunohistochemical examination revealed hypersensitivity to these hormones.<sup>6</sup> Juvenile gigantomastia can also occur in the context of Cowden syndrome.<sup>7</sup> Gestational gigantomastia complicate 1 to 118000 deliveries.<sup>8</sup> It starts usually in the first or second trimester of gestation.<sup>9</sup> Two mechanisms are suspected to be the cause of gestational gigantomastia. An elevated prolactine level has been reported by Lafreniere et al, in an 18 years old patient. The administration of Bromocriptine stopped the enlargement of the breasts confirming the hormonal cause of gigantomastia.<sup>10</sup>

Another mechanism was hypothesized by Gargan et al, consists in the creation of an antibody similar with Grave disease, which may interfere with the hormone receptor complex.<sup>11</sup> Several reports also described drug-induced gigantomastia such as D-penicillamine, neohetazone, cyclosporin and bucillamine.<sup>12,13</sup> Idiopathic gigantomastia is even more exceptional, reaching the adult woman over 20 years of age outside pregnancy. Histologically, there is hypertrophy of the connective tissue rather than hyperplasia of the glandular tissue.<sup>14</sup> Hedberg et al, reported an intracellular accumulation of a substance rather than a proliferation of connective tissue.<sup>15</sup>

Due to the rarity of this condition, treatment is not well codified in gigantomastia. Hormonal treatment has been used to control the breast growth by many authors. Tamoxifen had been widely used instead of surgery in the juvenile forms or post-operatively to prevent relapses.<sup>5,16</sup> Bromocriptine was able to decrease the size of the breasts in a 26 years-old woman who had a pregnancy associated form without jeopardizing the infant to born.<sup>17</sup> Corticoids and diuretics may be used also post-operatively.<sup>5</sup>

Surgical treatment has been considered after failure of medical treatment or upfront especially in the idiopathic and drug induced forms.<sup>2</sup> The standard technique is the described by Thorek in 1922 consisting in a nipple free reduction mammoplasty. The main inconvenient with this technique is a non-aesthetic breast and nipple with poor projection. It have been replaced with dermoglandular pedicle techniques.<sup>18</sup> The main risk after mammoplasty is frequent recurrent hypertrophy of the remaining breast tissue.<sup>4</sup> Pregnancy could be an aggravating factor due to the relative elevation of oestrogen.<sup>19</sup>

Some authors recommend a delay of pregnancy of two years after surgery.<sup>14</sup> Knowing this risk of relapse, some authors prefer mastectomy with reconstruction employing tissue expanders or autologous breast reconstruction procedures mainly in the juvenile or pregnancy associated gigantomastia. The normal breast tissue remaining after mammoplasty after re-growth in an aggressive way.<sup>2</sup> Nevertheless, axillary recurrence after mastectomy have been described by several reports.<sup>1,5,20</sup>

## CONCLUSION

Idiopathic gigantomastia is a rare entity, of indeterminate etiology. Diagnosis requires a careful elimination of other, more frequent causes, of gigantomastia such as pregnancy, juvenile or drug induced. It raises the problem of surgical treatment that can very rarely be radical. Long-term follow-up is necessary because of the possibility even after a radical surgery.

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